

StructureView: Uma plataforma de estudos de Algoritmos e Estrutura de Dados

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O Que é o StructureView?

Tendo como público alvos os estudantes e programadores em geral, o StructureView foi pensado para ser uma plataforma web para auxiliar nos estudos sobre algoritmos e estrutura de dados.

Inspirado em sites como Visualgo, Machine Teaching, Data Structure Visualization (Universidade São Francisco), e Exercícios da Faculdade de Stanford. O StructureView é uma tentativa de juntar um pouco de todos em um único lugar.

The screenshot shows the homepage of the StructureView website. At the top, there's a header with the logo 'VISUAL ALGO.NET/EN' and a search bar. Below the header, a green banner reads 'Data Structure Visualizations'. To the left, a sidebar contains links for 'About', 'Algorithms', 'F.A.Q.', 'Known Bugs / Feature Request', 'Java Version', 'Flash Version', 'Create Your Own', 'Source Code', and 'Contact'. It also features a photo of David Galles from the University of San Francisco. The main content area has a blue background with a network graph. A large green button says 'MACHINE TEACHING'. Below it, a section titled 'Bem-vindo ao Machine Teaching' includes buttons for 'COMEÇAR' and 'CRIAR CONTA'. A link 'Assista aos tutoriais' is also present. On the right, a section titled 'Nossos objetivos' has buttons for 'Reset Progress' and 'Reveal Solutions'. At the bottom, a graph diagram shows nodes 0 through 5 connected in a specific pattern, with node 0 at the top, 2 to its right, 4 below 2, 5 to the left of 4, 1 to the left of 5, and 3 at the bottom right. The text below the graph asks about DFS start and finish times for each node.

Do You Know?
In Visualgo, you can use your own code for any algorithm instead of using only the provided sample code. This is one of the feature of Visualgo that the great drawing feature in that it provides visualizations Graph DS, DFS/BFS, MST, SSSP, Max Flow, Matching, HVS, Steiner Tree, and TSP. You can also click tag graph in any of these 9 graphs related to machine learning or type graph in the search bar.

Visual Random Tip

Currently, we have visualizations for the following data structures and algorithms:

- Basics
 - Stack: Array Implementation

MACHINE TEACHING

Bem-vindo ao Machine Teaching

COMEÇAR CRIAR CONTA

Assista aos tutoriais sobre como usar o Machine Teaching

Nossos objetivos

Reset Progress Reveal Solutions

Graphs, BFS, and DFS

1 DFS Start and Finish Time

Consider the following graph:

```
graph TD; 0((0)) --- 2((2)); 0 --- 5((5)); 2 --- 4((4)); 2 --- 0; 4 --- 5; 4 --- 2; 5 --- 1((1)); 5 --- 4; 1 --- 5; 1 --- 4; 3((3)) --- 2; 3 --- 4;
```

You start your DFS algorithm at node 0, and assume that the vertices' numbers are used as tie breakers (you visit vertices with smaller numbers first). What is the DFS start time and finish time for each vertex?

Figma

 Íncio Aulas Problema Atual Problemas Passados Resultados

Apresentação da plataforma

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

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Conteúdos

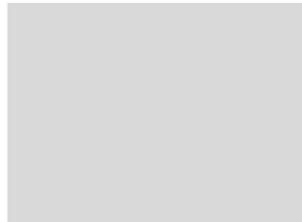
[Representação de Grafos](#)[Ordenação Topológica](#)[Busca em Largura](#)[Busca em Profundidade](#)[Algoritmo de Prim](#)[Algoritmo de Kruskal](#)[Algoritmo de Dijkstra](#)[Etc...](#)

 Ínicio Aulas Problema Atual Problema Passados Resultados Teoria  Prática

Lorem Ipsum

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 Dark Mode



Ínicio

Aulas

Problema Atual

Problema Passados

Resultados

Teoria Prática

1 Problema 1 - Lorem Ipsum

Feito

Tentar Novamente

2 Problema 2 - Lorem Ipsum

Tentar

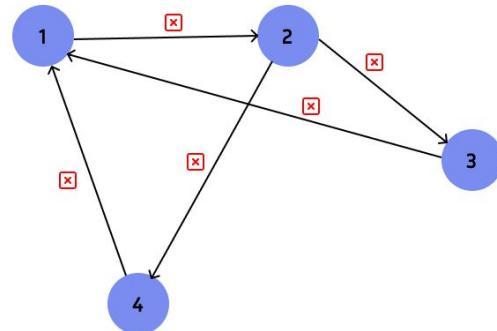
 Ínicio Aulas Problema Atual Problema Passados Resultados

Enunciado

Um grafo é dito conexo quando existe pelo menos um caminho entre qualquer par de vértices. Deseja-se transformar o grafo da questão em um grafo não conexo, ou seja, um grafo em que existam vértices sem caminho entre si.

Tarefa:

Remova uma aresta desse grafo para transformá-lo em um grafo não conexo.



Ferramentas que serão utilizadas

- **Front-end**: HTML, CSS e JavaScript (D3.js, vis.js, React, Vue.js)
 - **Back-end**: Python (FastAPI, Flask, Streamlit, Django)
 - **Banco de Dados**: (PostgreSQL, MySQL)
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Obrigado !